



Drought Advisory Committee

Drought Outlook 2010

Water Policy Interim Committee

Jesse E. Aber, M.Sc., DNRC

Drought Committee Staff

May 11, 2010



Governor's Report 2010

Currently, outlook for surface water uses dependent on snowmelt from mountain snowpack through mid-July ranges from ***moderate to very high***

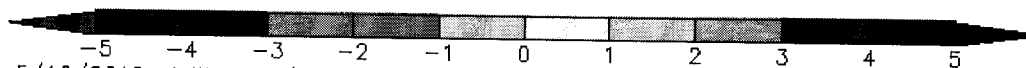
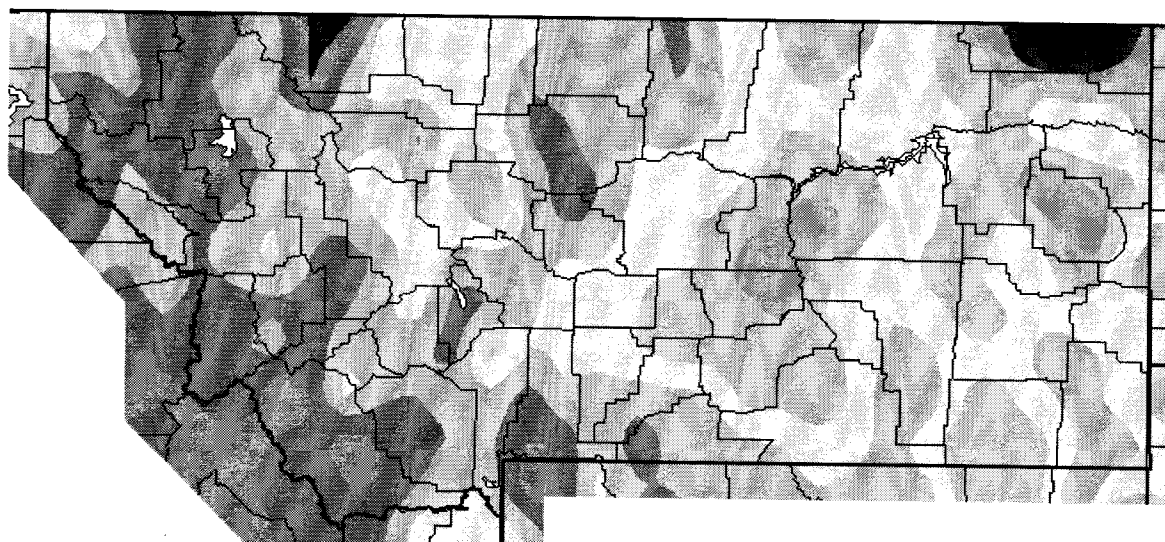


Governor's Report Cont.

Potential for impacts from drought to dryland farming and livestock production at this time ranges from ***low to moderate*** east of the divide and ***moderate to high*** west of the Divide into mid-July

Depart from Ave Temps 3/11 to 5/9

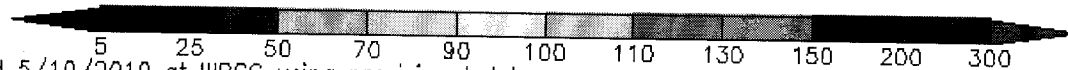
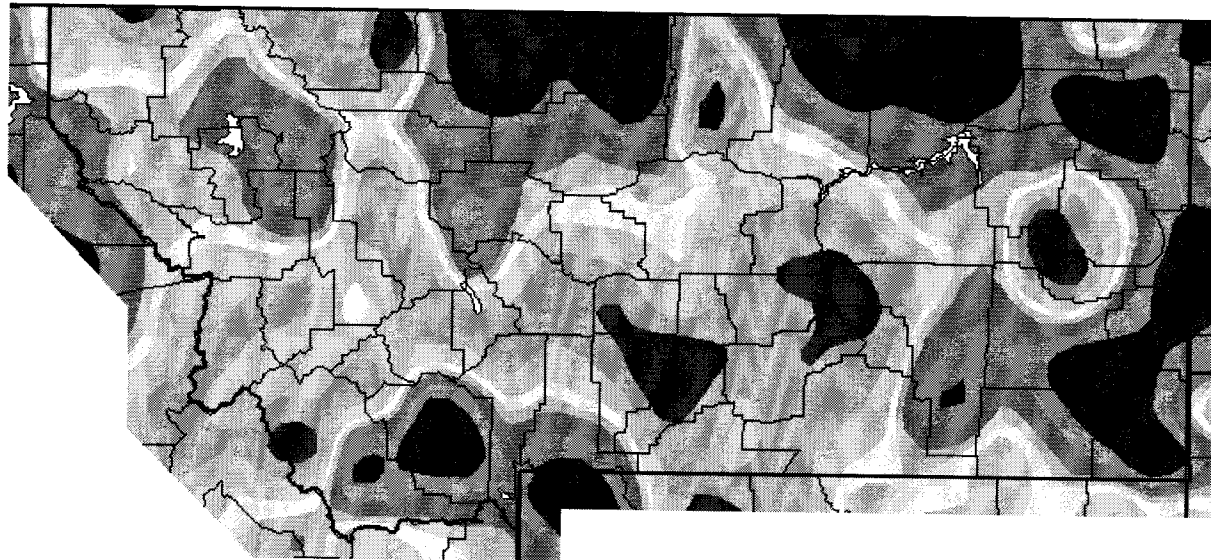
Ave. Temperature dep from Ave (deg F)
3/11/2010 – 5/9/2010



Generated 5/10/2010 at WRCC using provisional data.
NOAA Regional Climate Centers

Percent of Ave. Precip 3/11-5/9

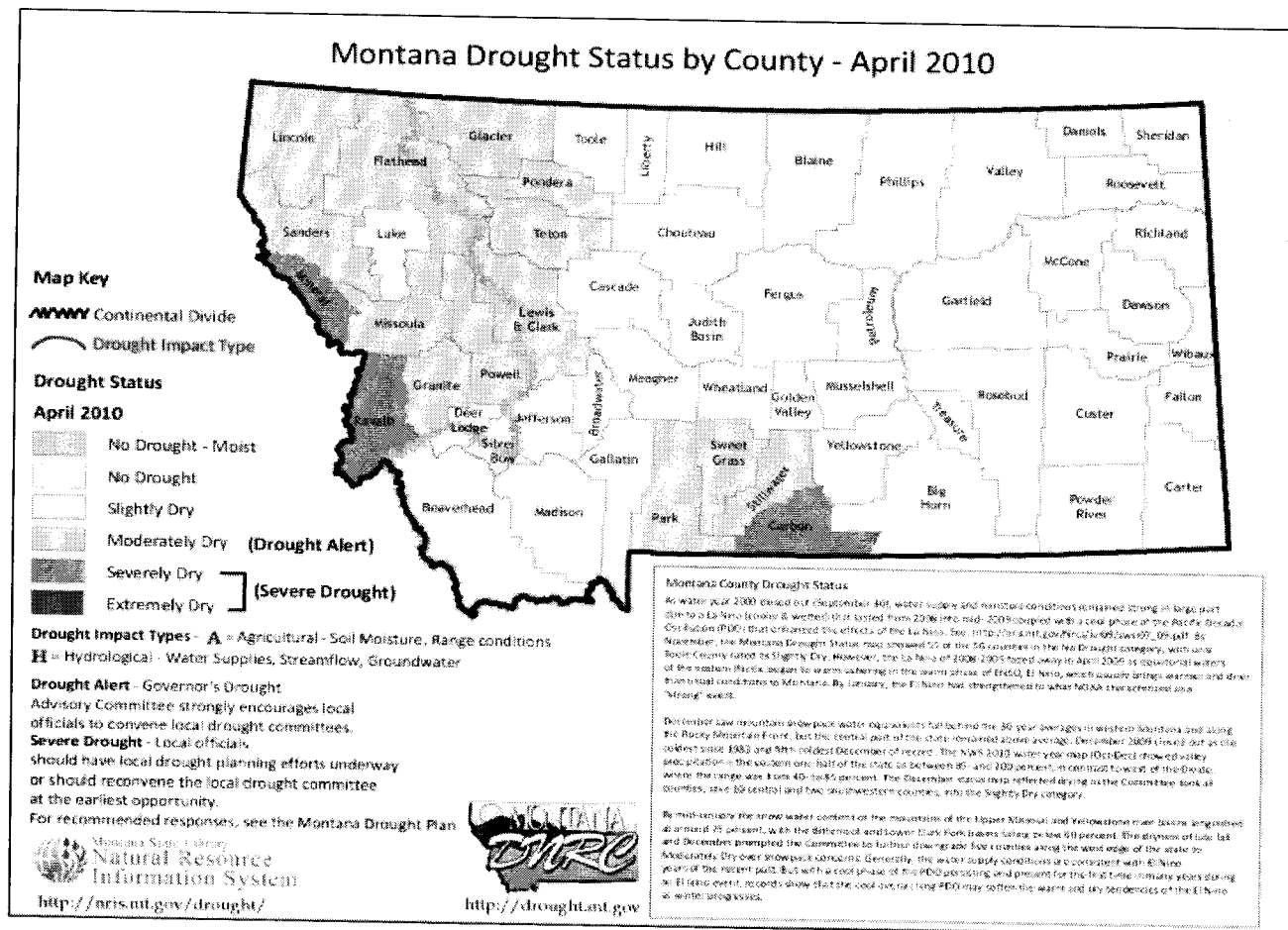
Percent of Average Precipitation (%)
3/11/2010 – 5/9/2010



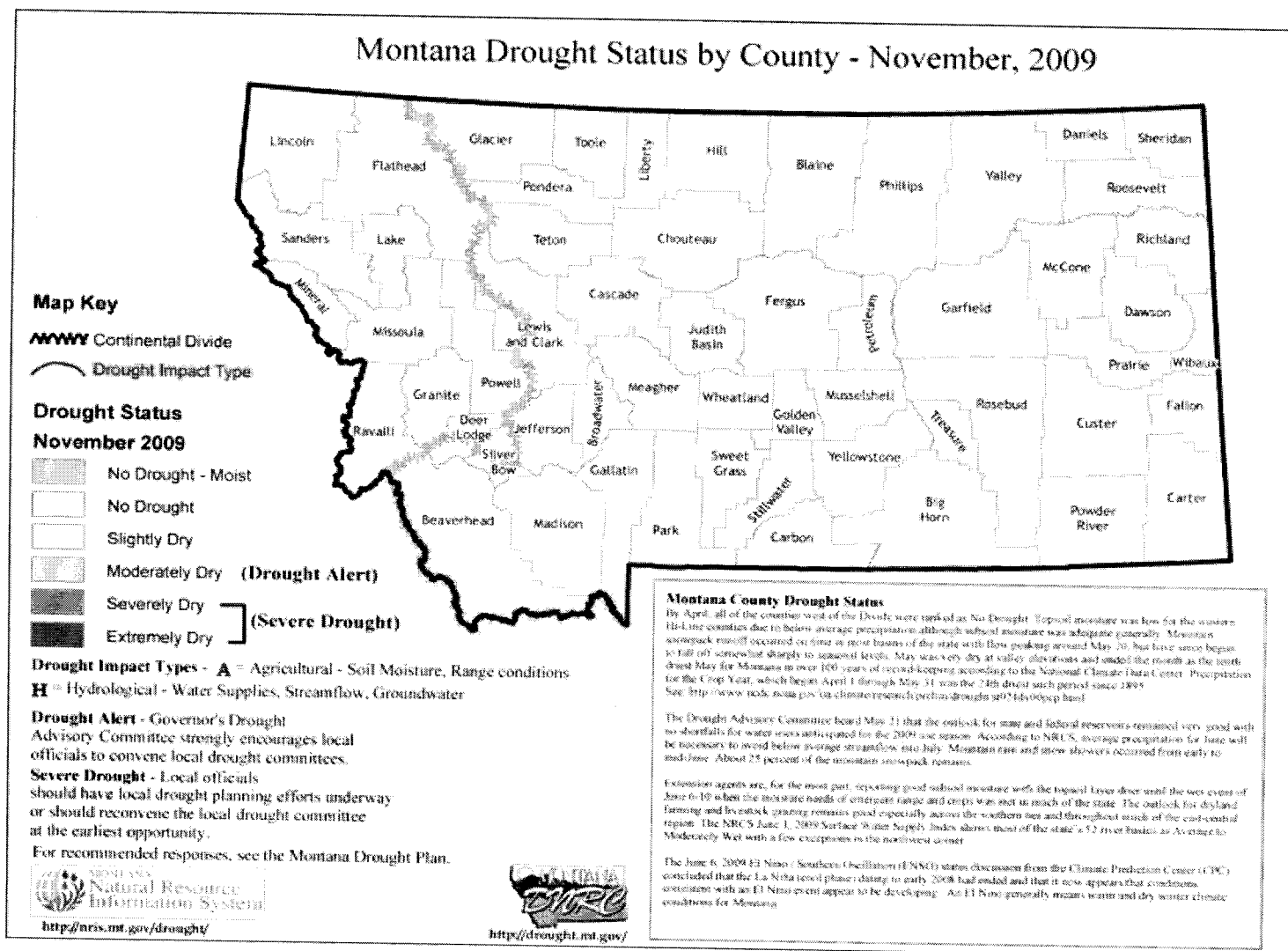
Generated 5/10/2010 at WRCC using provisional data.
NOAA Regional Climate Centers

2009 – 2010 El Nino

Damage Done – Mtn. Snowpack

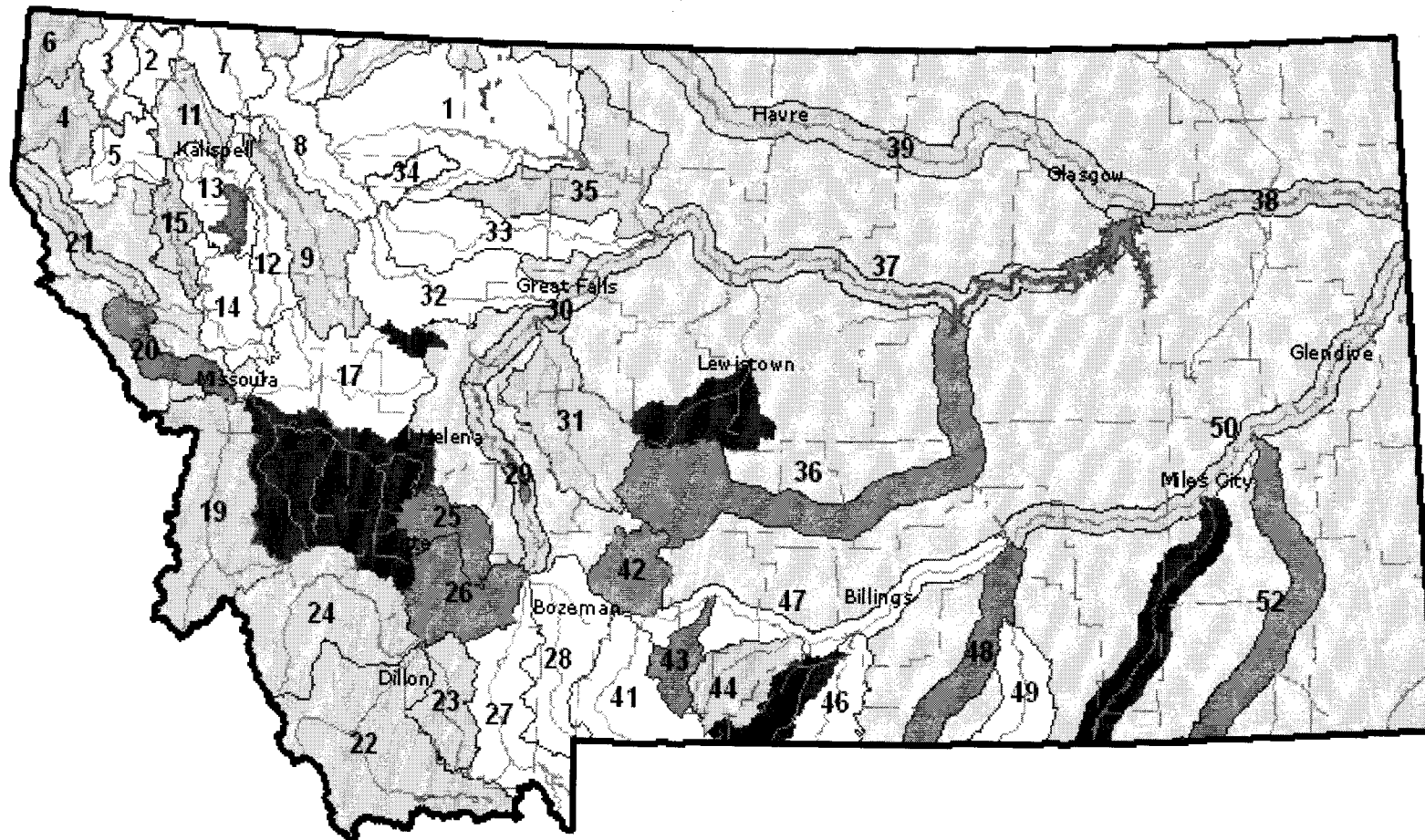


Start to Water Year 2010 (Oct-Nov)



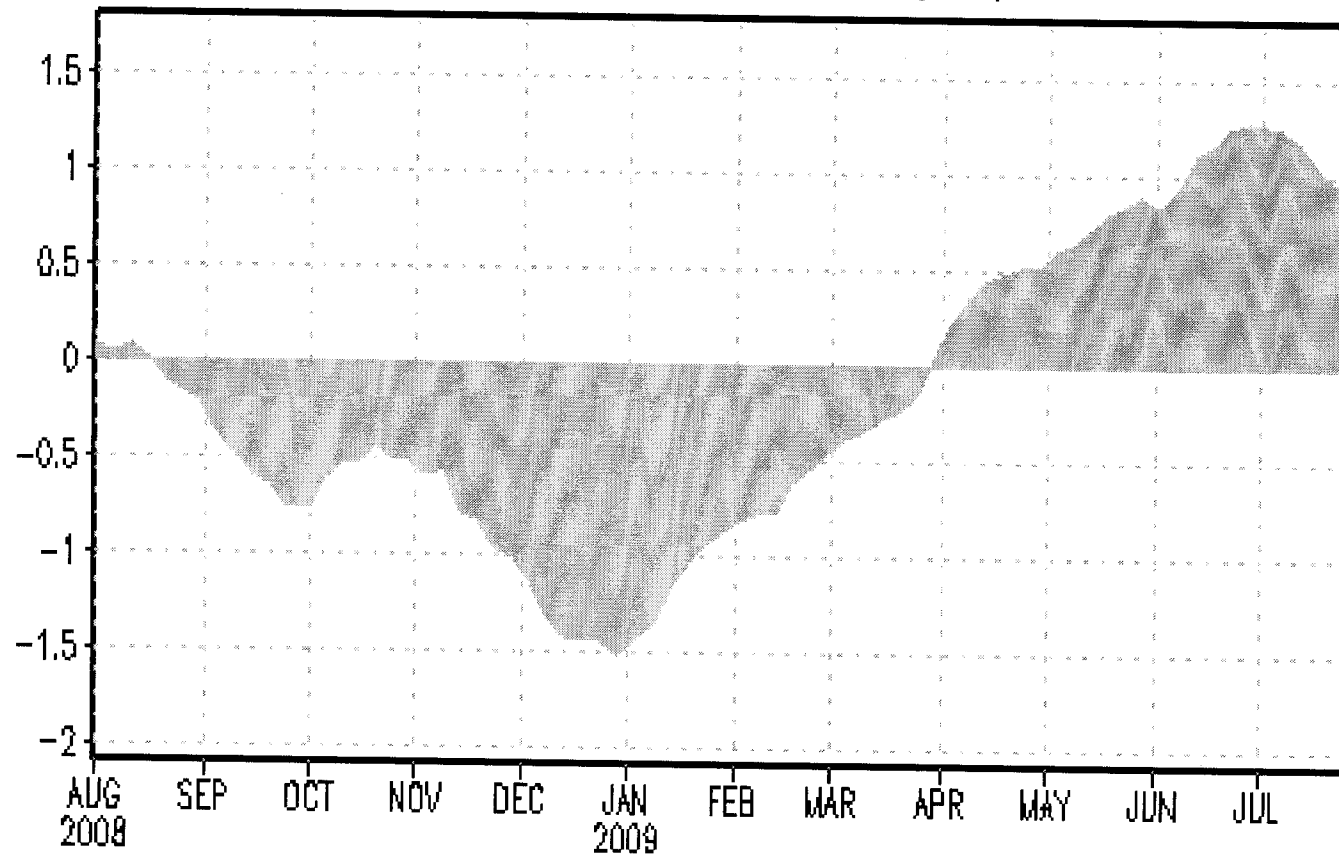
NRCS SWSI Map September 2009

Ending La Nina 2008-2009



La Nina 2008-2009 gives way to El Nino 2009-2010!

EQ. Upper-Ocean Heat Anoms. (deg C) for 180-100W

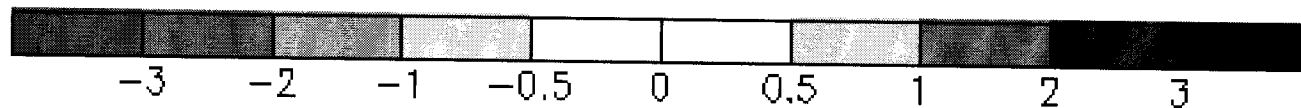
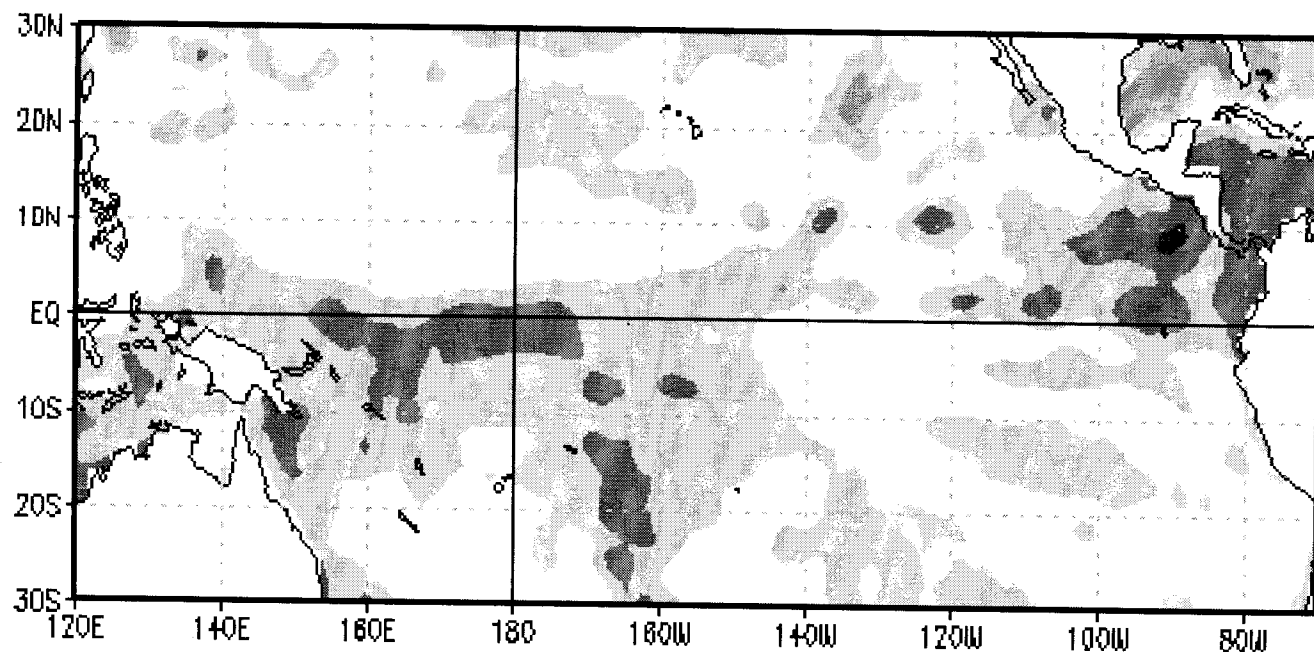


CPC May 6, 2010 ENSO Update

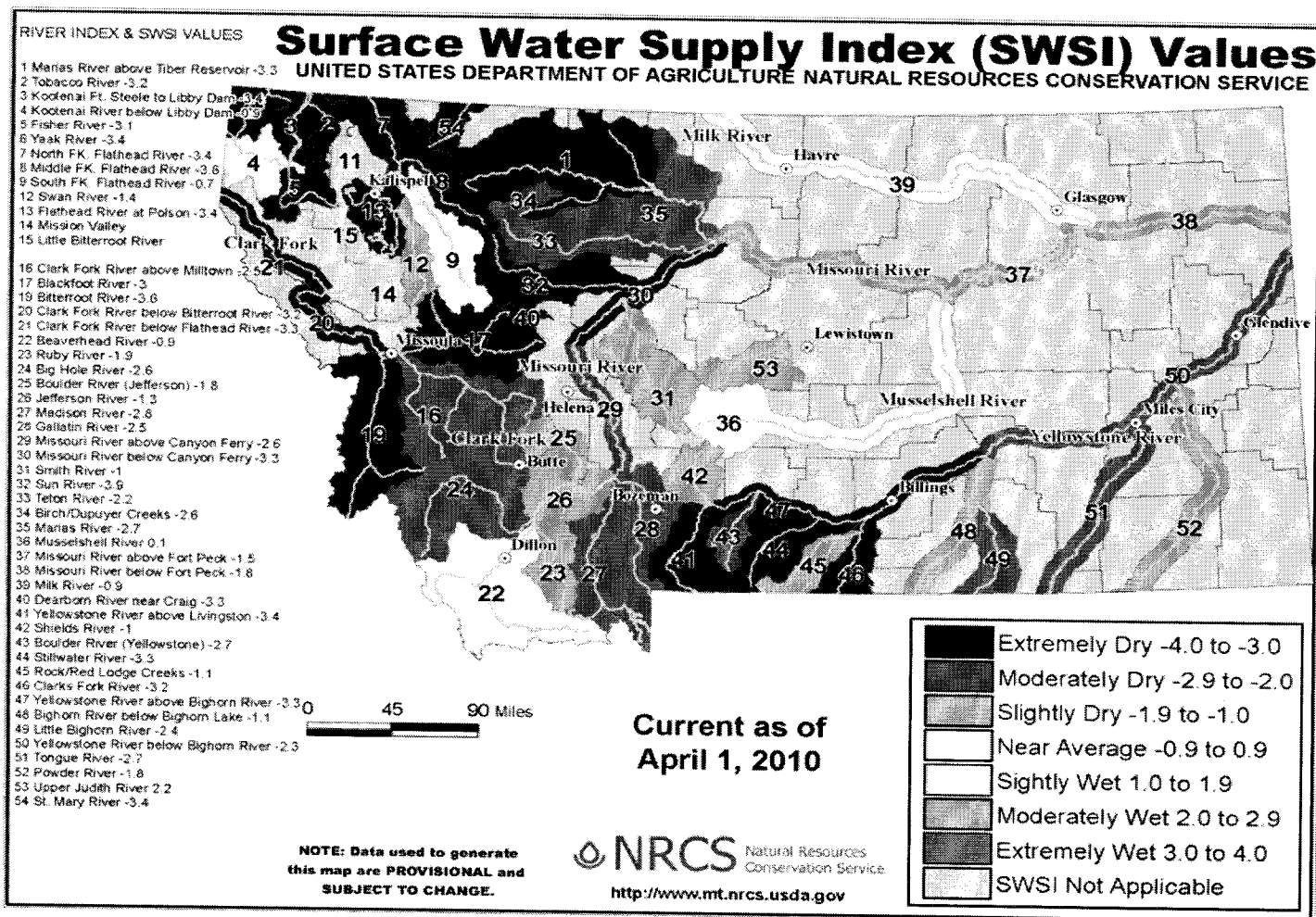
April 28 – El Nino weakens

SST Anomalies (°C)

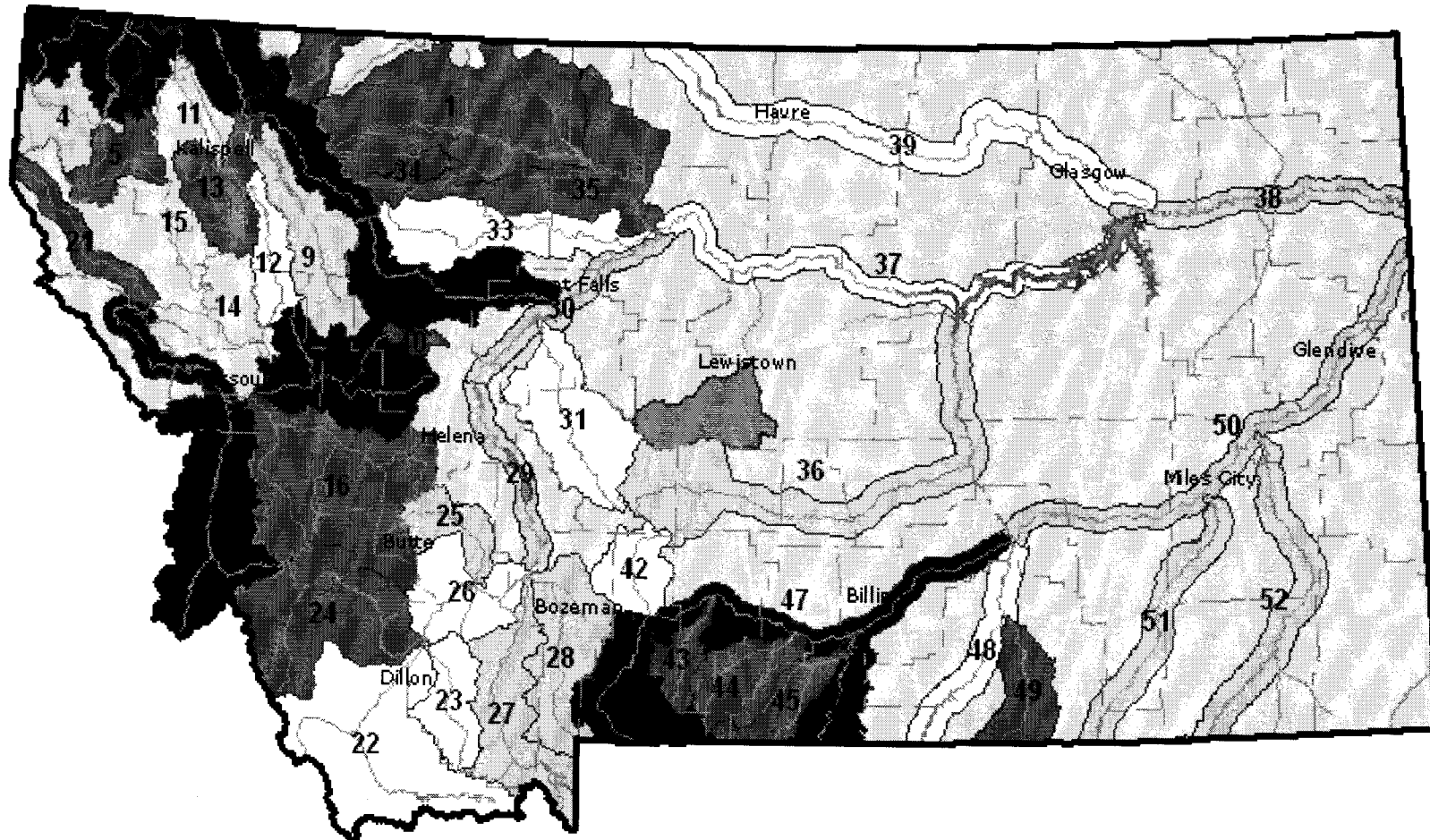
28 APR 2010



NRCS SWSI April 2010



NRCS SWSI – May, 2010



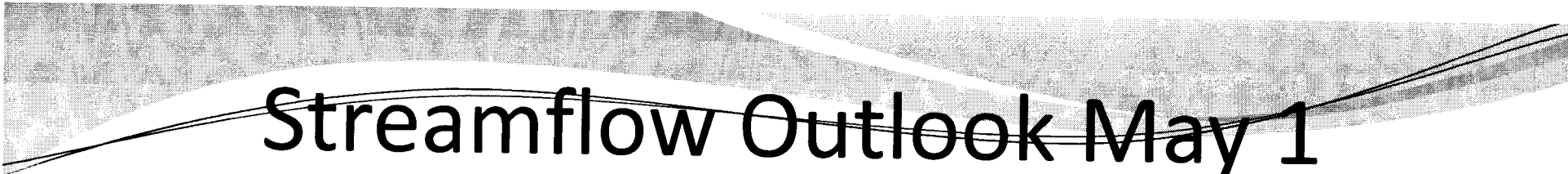


NRCS May 1 Basin Outlook Report

Snow water content averages:

- Columbia Basin 68 percent
- Missouri Basin 71 percent
- Yellowstone Basin 68 percent

Although recent storms have improved the summer streamflow outlook, streamflow forecasts in most river basins remain below to well below average.



Streamflow Outlook May 1

Assuming average precipitation May through July streamflows forecasted:

- State-wide average 65 percent;
- West of Divide, average 62 percent;
- East of the Divide, average 66 percent.

NASS May 3 Crop Progress Rpt.

- Topsoil moisture adequate and surplus is 84 percent
- Subsoil moisture adequate and surplus is 69 percent

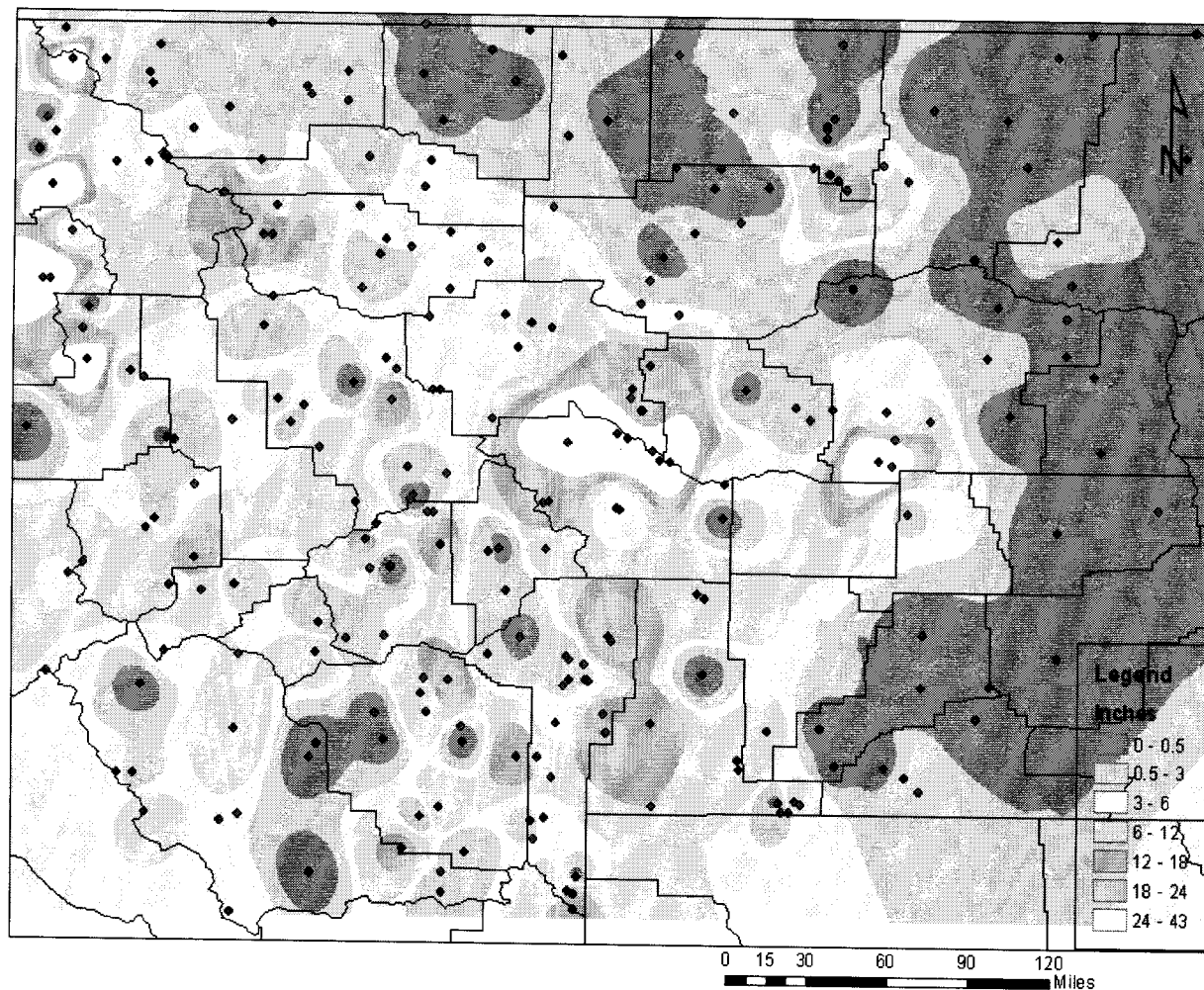


Crop Progress Rpt. (cont.)

- Range / pasture feed conditions are at 37 percent good to excellent;
- Winter wheat condition improved from last week with 62 percent good to excellent.

April 28-30 Storm – Great News!

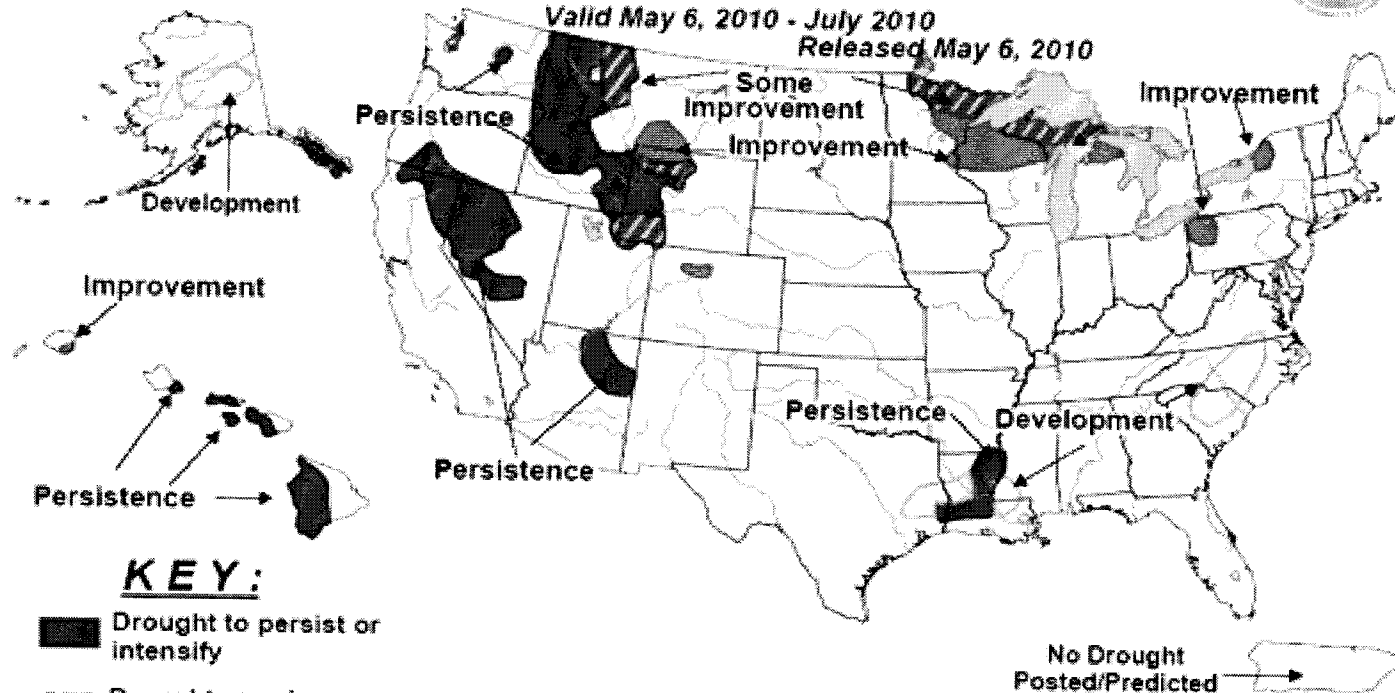
SnowfallTotals Apr 28-30 2010



Drought Outlook May-July

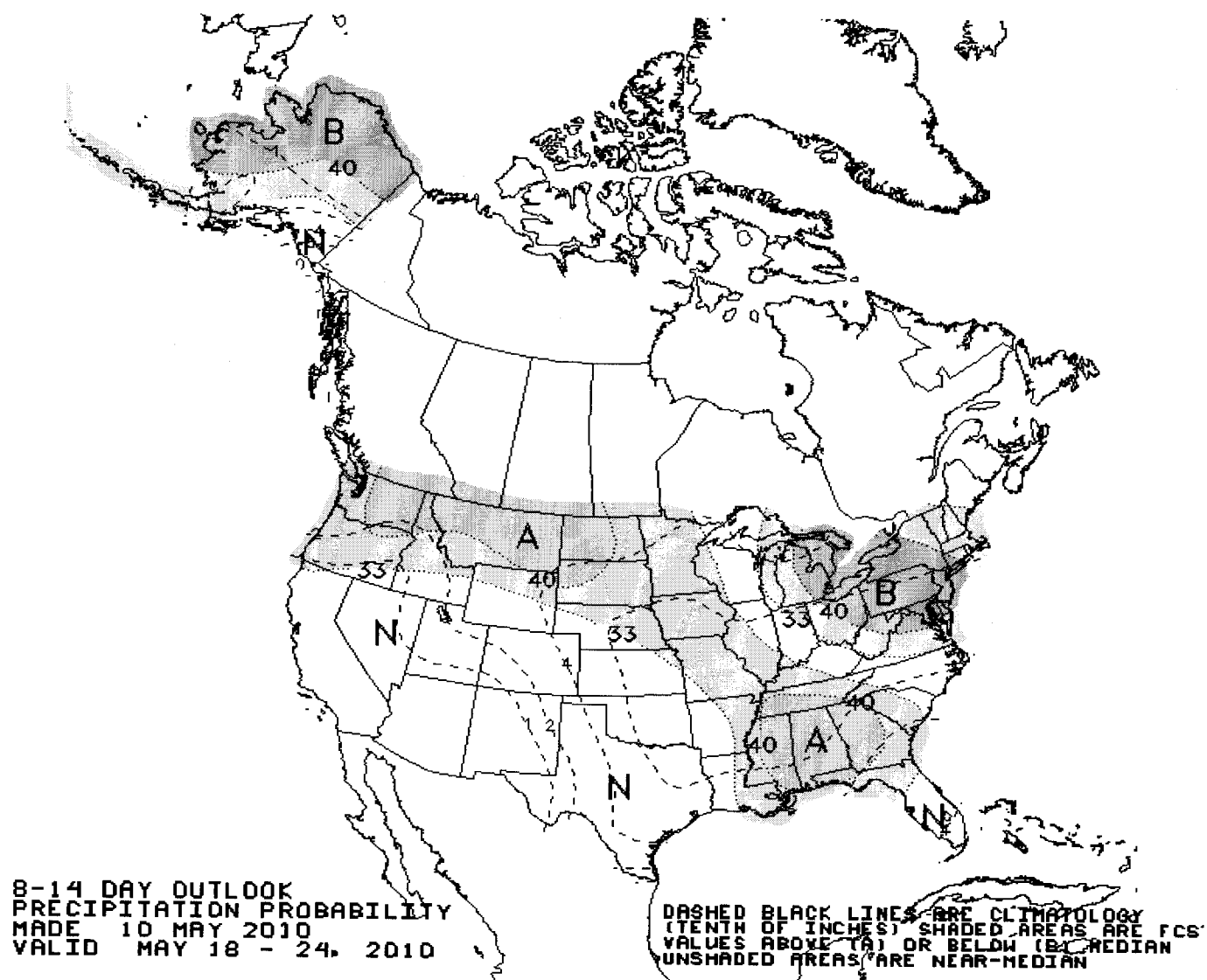


U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period Valid May 6, 2010 - July 2010 Released May 6, 2010

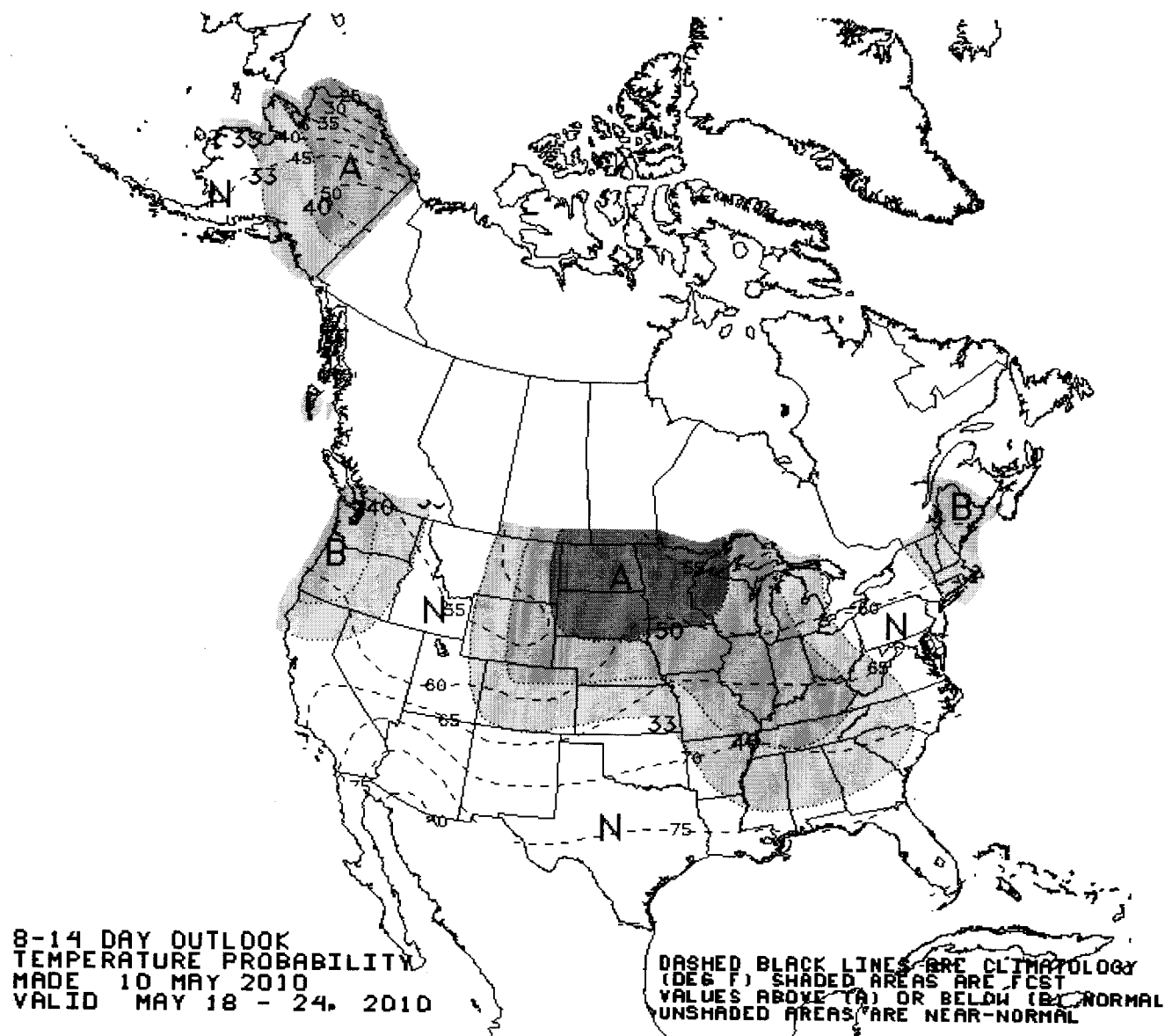


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

8-14 Day Precip Outlook



8-14 Day Temperature Outlook



Pre-Season Fire Assessment

Factors to consider

- Fall Moisture – Sep-Nov-Dec poor
- Snowpack – West – Poor; East – Good
- Spring Temps / Precip – Favorable
- July Temps - ?
- Convection - ?

Conclusion – Above average fire season
most likely by mid-early July.....

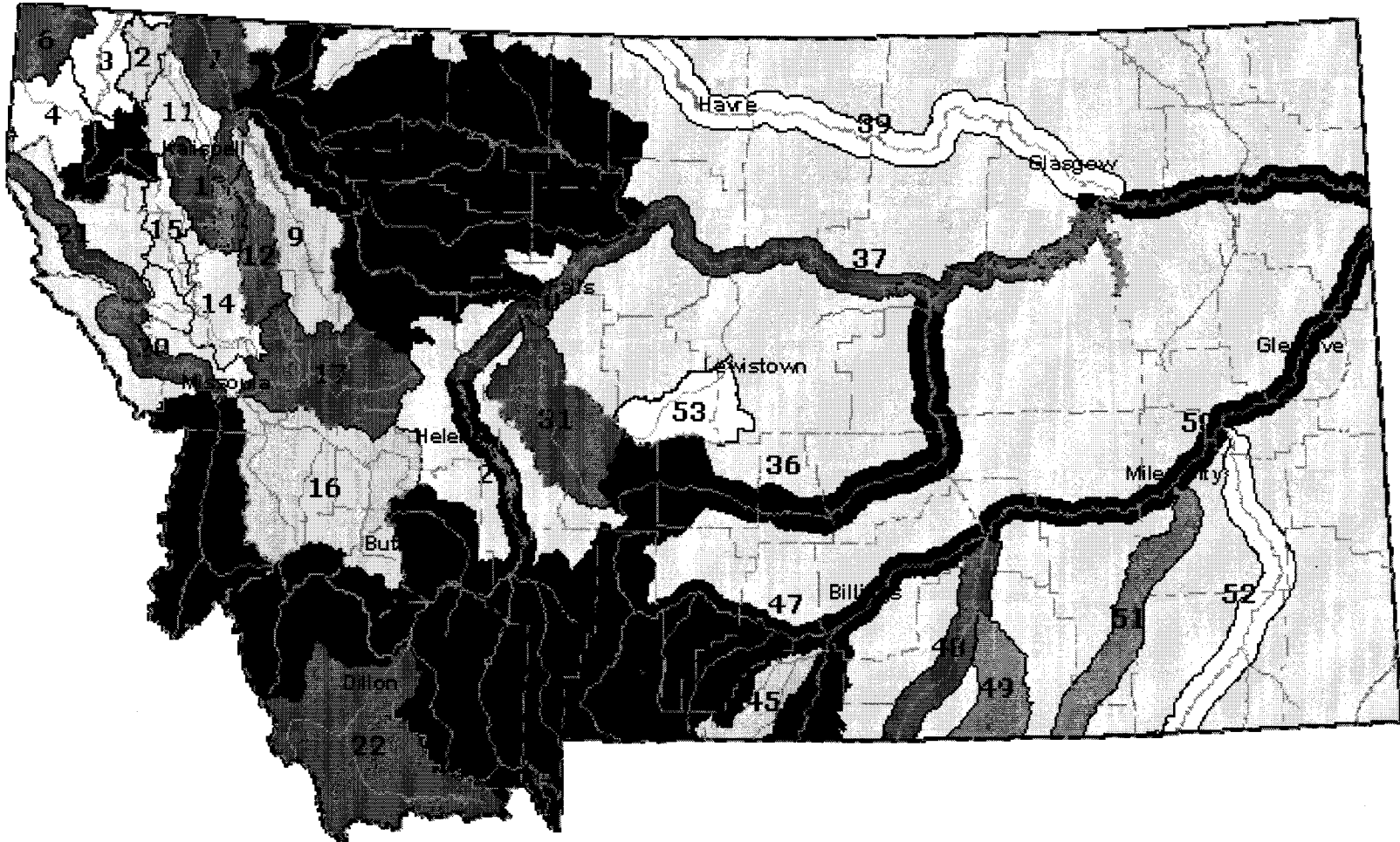


Forest Insect Infestation

- Dry climate conditions first six years of decade cause of widespread mountain bark beetle infestation as warm, stressed conifers unable to defend against attacks by forest insects;
- Since 2000, over 5 million acres of Montana forests have incurred mortality from the beetle, including approximately 2 million acres in 2009 alone.

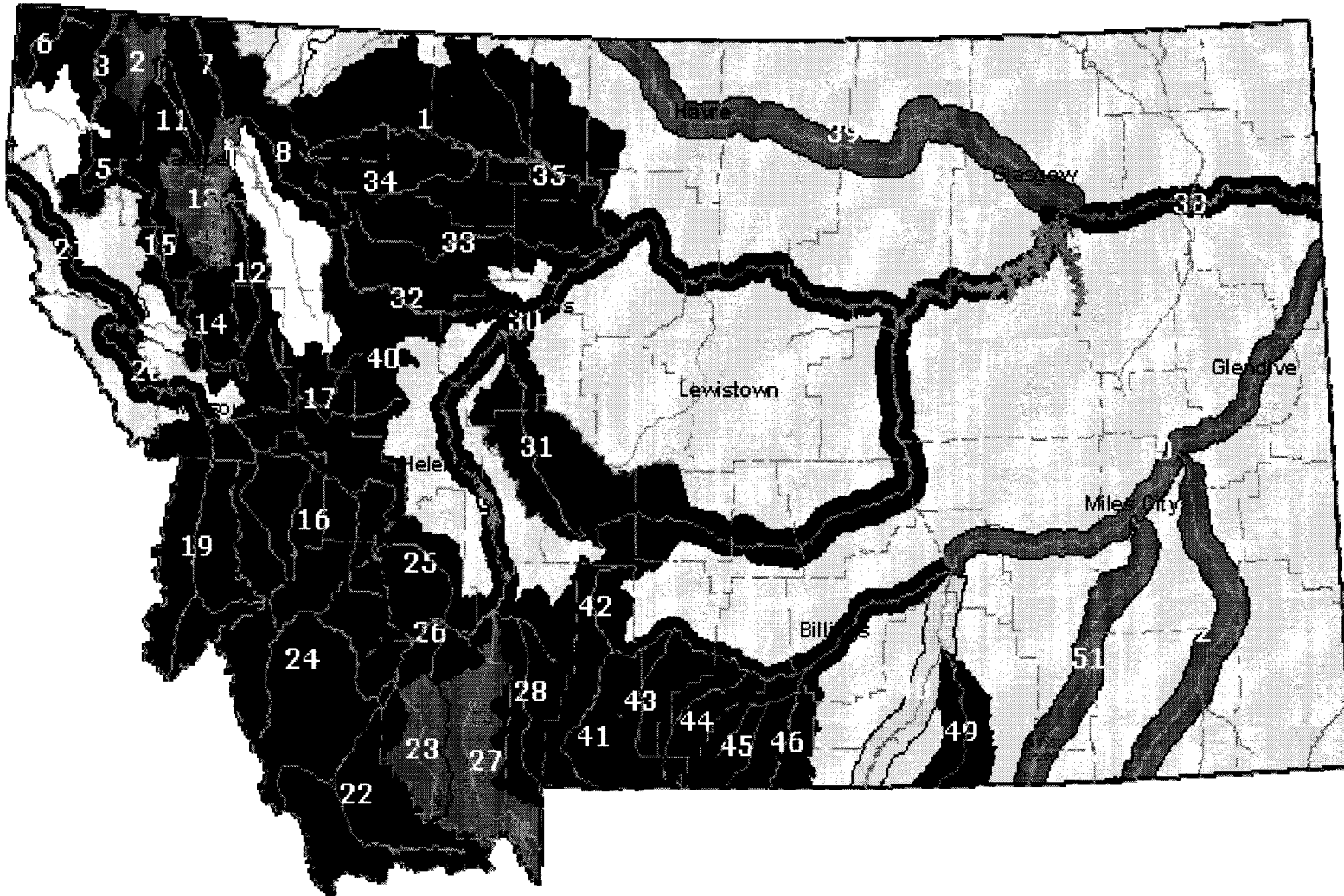
SWSI August 1, 2007

Following record heat wave



The El Nino of 2004 – 2005

Led to (SWSI) - April 2005





The End

Thank you

Drought.mt.gov

At this time, the potential for drought-like conditions for surface water uses dependent on snowmelt from mountain snowpack through mid-July ranges from ***moderate to very high***. The potential for impacts from drought to dryland farming and livestock production at this time ranges from ***low to moderate*** east of the divide and ***moderate to high*** west of the Divide into mid-July.

At this time the Montana Governor's Drought Advisory Committee rates the potential for drought-like conditions through mid-July to range from ***moderate to very high for surface water dependent uses***.

The mid-term outlook (April-July) for grazing, livestock water, and dryland crops across much of the state east of the Divide at this time is ***fair to good*** due to an unseasonably cool and moist winter in the plains of Eastern Montana.